Sexual Assault Prevention Program Coordinator Interviews: Finding the Galileo Conceptual Neighborhood among University Title IX and Sexual Assault Prevention Programming

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Abstract: Sexual Assault Prevention programming is prevalent at colleges and universities receiving federal funds. Currently, there are no comprehensive, systematic reviews of evaluation research on primary prevention strategies for sexual violence perpetration (Basile, et. al, 2016). Galileo is a novel approach for conceptual analysis for understanding the thinking about Sexual Assault Prevention Training. The thinking of Title IX Coordinators is an appropriate place to begin the steps necessary to improve practice and results. By creating the foundation of conceptual elements using Galileo, the efficacy of sexual assault prevention training becomes achievable. First, the three-stage process of Galileo can be used to recognize the important conceptual networks currently in place in Sexual Assault Prevention Training. That first step is reported here in preliminary form. The findings represent the shared conceptual space of the Title IX professionals at present. The research will assist in forming a strategic plan for helping Title IX Coordinators continue the work of more efficacious prevention training. The authors explain the Neighborhood Concept of the Galileo Approach. This paper reports analysis of 66-15-minute interviews with Title IX professionals. Semi-structured open-ended questioning was used to explore coordinators' thinking about Title IX and important related issues.

Keywords: Galileo Theory and Method; Sexual Assault Prevention Training; Title IX; Conceptual Spaces; Neural Networks.

Introduction

Title IX of the Educational Amendments was promulgated in 1972 ("Title IX"), 20 U.S.C. §1681 et seq., which is a Federal civil rights law that prohibits discrimination on the basis of sex in education programs and activities. All public and private elementary and secondary schools, school districts, colleges, and universities receiving

any Federal funds must comply with Title IX (OCR, Dept. of Education, 2021). Under Title IX, discrimination on the basis of sex can include sexual harassment or sexual violence, such as rape, sexual assault, sexual battery, and sexual coercion (OCR, Dept. of Education, 2021). Title IX also outlines a school's responsibilities to address sexual harassment and violence (OCR, Dept. of Education, 2021). The Title IX act has been amended a number of times since. For the purposes of this study, the most important amendment is the Jeanne Clery Act, which reaffirmed the training mandate for schools, colleges, and universities. This study examines the thinking of Title IX Coordinators who are charged with responding and investigating the reported violations of Title IX on their campuses.

Title IX and Clery Status on College Campuses

Under Title IX, Colleges and universities are required to take prompt and fair or equitable action to help sexual assault victims and allow them to benefit as fully as possible from the educational institution's educational degree programs (OCR, Dept. of Education, 2021). One way colleges and universities have approached this work is to establish sexual assault prevention programs on their campuses. While Title IX does not mention sexual assault prevention, one of the important legislative actions does: The Jeanne Clery Act.

While training is mandated under legislation, program evaluations of existing sexual assault prevention programs on college campuses have shown limited or mixed results. Over the past 20 years, and as recently as 2020 (Feldwisch, 2020), numerous meta-analyses have been conducted (Katz and Moore, 2013), (Fischer et al. 2011), (Kettrey and Marx, 2019) across the United States, South Africa and Sweden all with the same objectives of correcting misperceptions of normative behavior, increasing students' likelihood to intervene in disconcerting situations, increasing awareness/knowledge, and becoming empowered to act. RTI International conducted an evidence-based review of 59 of these studies (Morrison, et al., 2004). Results indicated that only 14 percent of the studies reported positive intervention effects at post-test or follow-up, and 80 percent reported mixed results (Morrison, et al., 2004). Davis (2020) says flatly that Title IX and associated Clery Training are no better than misdirected. Jessica Terman (2022) who reports Davis' remarks found in her research using key informants, that there is a strong sentiment among them that results are elusive. Among the difficulties in delivering sexual violence prevention training is what Budd and Frye (2023; p. Conclusions) call a "long standing problem on college campuses" because of social and cultural roots. Given these factors the standard or "check the box" sentiment of training has never delivered needed results.

According to Jennifer M. Gomez, college women experience higher rates of campus sexual violence and what she calls "institutional betrayal" (Gomez, 2022; page 94). Title IX was intended, through its expanded and protective amendments, to protect female athletes and female students, which Dr. Gomez indicates is not happening. The National Sexual Violence Resource Center mirrors Dr. Gomez sentiments in the statistics that one in five college women report being sexually assaulted while attending a university (National Sexual Violence Resource Center, 2015). Additionally, Baldwin-White and Moses offer that College is also the time

when men have the greatest likelihood to commit sexual assault; 23% of college men reported committing acts that meet the definition of sexual assault and 35% reported some proclivity toward sexual assault if they could be assured, they would not get caught (Baldwin-White and Moses 2021; Burgess, 2007). Female college students are also less likely to report a sexual assault and are also more likely to believe that a sexual assault is a personal matter and not serious enough to report (Baldwin-White and Moses 2021).

Azimi, et. al, (2021, p. 46) write that "simply being exposed to prevention programming does not mean that it will translate into intervention behavior – and in fact makes it less likely the individual will intervene under certain conditions." They go on to note sexual violence and its prevention should be part of the content of training in the Title IX space. The omission of such information is what they term a "weakness" in the training. For example, Katie M. Edwards, et. al, write about their research into sexual assault prevention programs. Their article is entitled "Measurement Tools to Assess Relationship Abuse and Sexual Assault Prevention Program Effectiveness Among Youth." Their tools are to be used for evaluating Sexual Assault Prevention Programs. The tools date from 2018; indicating the availability of such tools has had limited adoption or have been overlooked entirely.

An article written Adrienne Baldwin-White and Karen Moses entitled "A Multisession Evaluation of Sexual Assault Prevention Education: The Unique Effects of Program Participation" (Baldwin-White and Moses, 2021) found even among several programs with multi sessions results were no better than "mixed." None of the programs evaluated produced higher scores on key tests and scales. While these specific resources show limited results, the literature is replete with other such reports. Sexual assault prevention work has been reported in considerable quantity in the literature. Using the search terms, **sexual assault or sexual violence and prevention or intervention,** produces 34,497 results; using the dates for publication as 2018 to 2023 still produces 15,234 results. The substantial quantity of literature results indicates researchers in the field are interested in sexual assault prevention efforts despite disappointing outcomes already published. Naturally, it is valuable to prevent violence or assault before they happen, thus the need for training. According to the CDC, Public health underscores the importance of primary prevention, and preventing sexual violence before it occurs (Basile, et. al, 2016). Compared to other types of violence (e.g., youth violence) and other public health topics (e.g., HIV prevention)," the evidence base for sexual violence prevention is significantly less developed. The proposed solution is to continue to build the evidence base of what works to prevent sexual violence by investing in rigorous evaluation of promising prevention approaches (Basile, et al. 2016). Efforts to prevent sexual violence before it occurs (i.e., primary prevention) are "increasingly recognized as a critical and necessary complement to strategies aimed at preventing re-victimization or recidivism and ameliorating the adverse effects of sexual violence on victims (DeGue et al. 2014)."

Mental Conceptual Space

The delivery of sexual assault prevention training under Title IX is a complex mental exercise. Each person

exposed to the training brings with herself/himself/themselves a mental model of concepts formed from experiences, cultural messages, family relationships, and many other influences on their thinking. Consequently, the mental model of sexual assault topics/concepts may likely be already present in a person's mind and cognition formed before any training occurs. This conceptual space may not be easily transformed in a way conducive for having the training lessons fully absorbed.

Pierce began working in the area of mental models in the late 19th century. His definition of "inwardness" is germane to the foundations of mental models. Pierce noted that a person's inwardness knows no boundaries or limits. In fact, he formulated the idea of inwardness (Semetsky, 2005, page 665) which he postulated had dimensions which could be expanded, particularly in cultural content. Others have followed with further research advancing the understanding of mental models (see Johnson-Laird, 2010).

Galileo Theory

The inwardness feature of mental models has a large impact on the Galileo Theory approach being used in the research reported below. The inwardness of Pierce is the self in Galileo. The self, according to Woelfel (Woelfel, 2022, p.753) is always present in the conceptual space of any individual. This phenomenon is in Galileo Theory because conceptual space within the individual is corporeal. Thus, thoughts are generated in a person's body and belong in that person's conceptual space which form a mental model.

This understanding is fundamental to Galileo since Woelfel points out Western Civilization has not fully accepted that thoughts are corporeal. The philosophical underpinning of this limited reasoning dates from as early as Aristotle but, again, according to Woelfel, continues today. Woelfel writes "Abstract, immaterial concepts have no "place," i.e., location, in Aristotle's world, which is still, for the most part, the cultural underpinning of contemporary Western civilization (Woelfel, 2022, p. 264)." Hence space as such has little meaning in psychological or cultural processes.

Importantly, the issue of concepts being corporeal means they are in the thinking space of individual humans. Thus, the space they occupy is subject to spatial coordinates. With such coordinates, concepts can be mapped in the conceptual space they occupy. More, importantly for Galileo Theory, that space can have "vectors" in it. Vectors can be plotted, and vector coordinates can be used to determine distances within that space between and among concepts. Woelfel credits Young, Householder and Torgerson with developing the early scaling methods and mathematics to determine distances among concepts in the space of cognition or mental maps. (Woelfel 2022, page 265).

Given all of the foregoing, the Galileo mental map is generated with clusters of concepts found in the nodes of individual brains connected by synapses. Concepts are actual neurons. The connections among brain nodes are based on the Hebbian Rule that neurons that fire together wire together (Lagani, et.al., (2022, p. 6503). Donald

Hebb (1951) developed the idea that the brain is equipped in this way to allow all humans to learn and to remember. Learning is a base element of any single person's mental map.

With the neurons connected in this way, humans produce concepts in subsets as they experience the world around them. Resultantly, these experiences are formed into neighborhoods, as it were, of concepts constructed from experiences such as reading, watching TV, listening to music, traveling, using the internet, and other human interactions with the world around them. Since the mental map is formed into any individual's conceptual neighborhood, the corporeal thought of the self is present in all the neighborhoods. Those neighborhoods are formed by the neurons and the connecting synapses, because oneself is always present in the human mind.

Galileo Method

All of the Galileo structure among concepts in the mind lend them to a method for understanding what they specifically are in any neighborhood and then on to a conceptual mapping process to generate the coordinates of those concept in the mental map or conceptual space they occupy. This exploration of concepts or neurons can be accomplished through Galileo analysis. Galileo analysis begins with understanding the neighborhoods of concepts shared by individuals based on a generally defined set of ideas formed into questions. Those questions are open ended and intended to generate a conversation-like interview. Those answers are the entryway into the conceptual shared space among those with the neighborhood. It is important to distinguish this approach from the more traditional statistical measurement used in much of social science. Importantly, as Woelfel points out, that research is based on Euclidean space not conceptual space. The distinction is important to understanding the analytic direction Galileo takes and the methodology to do so.

Once the open-ended questions' answers are transcribed, the Galileo Catpac analysis can begin. The Catpac analysis uses an algorithm to sort through the transcribed answers seeking patterns within the questions' and across the answers to those questions. Once that process is completed, dendrograms can be produced; one for each open-ended question. In order to process the transcribed text file in this way, Catpac performs as a neural network itself and can find where the neurons are firing together, in the Hebbian way. The resulting dendrograms represent the wiring of the text file neurons arising from the questions posed to the respondents who were engaged to answer them.

Since the Title IX coordinators and their deputy coordinators are the lynchpins of the Title IX and Clery Act requirements, it was determined that they would have the most broadly formed conceptual space for Galileo analysis to explore. For the Title IX conceptual space exploration, a set of 5 open-ended questions was used. In Galileo Methodology it is best practice to use 5 to 7 questions for the dendrogram beginning phase of the method.

The questions used in the Title IX beginning Galileo phase were:

1)   When you first became involved in Title IX work, what were the results you were expecting to see?

Prompt Question: What brought you to the work?

2)   What principles do you think should be present in Title IX Sexual Assault Prevention training?

Prompt Question: What do you think is missing?

3)   What do you think are the reasons Sexual Assault Prevention trainings have traditionally shown limited or mixed results?

4)   What training or expertise should a Title IX trainer have?

5)   What do you think is the future of Title IX Sexual Assault Prevention training?

Prompt Question: Are there any final thoughts before we conclude?

The questions and the prompts are intentionally broad in order to elicit responses generated by the Title IX key informants' thinking. That thinking is the location of the Galileo Conceptual Space or neighborhood. That space is where the Title IX concepts exist in the key informants' mind.

The Galileo space can be enlarged from individual study and by communications about and for Title IX from government sources, from online magazines, from Title IX training, from Title IX professional associations, and, certainly, from one Title IX professional to another. Information from these sources is the result of conforming information developed by use of Title IX ideas or concepts by evolving interaction among Title IX professionals and the Title IX information domain. Finding this domain was the aim of the study reported below.

The approach taken for exploring the conceptual space of Title IX, was derived directly from 66 Title IX coordinators, deputy coordinators, and women's centers directors on college campuses. The transcribed interviews, without attribution (anonymous), were then submitted to Galileo's Catpac software algorithm for analysis. The algorithm generates dendrograms for each of the 5 questions. It also produces a word count of the most frequently occurring words, concepts, and neurons. Since Catpac is a neural network, it is well suited to the task of finding neurons firing together.

The analysis also included a split half analysis of Question #2's dendrograms. This step was taken to determine if the patterns found in the dendrograms were stable and, therefore, dependable for surveying the Galileo conceptual space among the 5 questions used.

Procedures

The Catpac software is a neuron finder. It operates using a window, which can be set to larger or smaller sizes. The window "reads" the text from left to right within the window and moves on to the next text series and reads the text the same way, and so on. Understanding the data in a dendrogram means, a word is a neuron. Once the

word/neuron is assessed the neuron becomes active so that connections can be established just as the human mind works to wire neurons together. The words that are close to each other in the text are saved to the Catpac memory.

The Catpac software can be set to go through the text more than once in this way. Going through the text is called a cycle in Catpac. More than one cycle can be used, but caution is advised in taking this step (Catpac Manual, Version 2.0, pg. 24). As a cycle moves through the text, neurons are "turned on" and once on can activate other neurons as in the human brain, except the brain does this work in parallel. Catpac cannot do so since it is activated in a computer not a human brain. Adding cycles will update the neuron connections but if there are too many cycles used all neurons are on all the time and no real connections are available. The default is 1 cycle and Woelfel's Catpac manual reports 1 cycle is useful for most analyses of texts.

The Transfer Form is associated with the Threshold and Learning operations in Catpac. The transfer is in the mathematical form of -1 to +1 in the data results shown below. The -1 to +1 function is how the learning function and the threshold function operate as the Catpac Window passes through the text file. It is nonlinear in its mathematical mapping of the neurons once turned on in the text.

In the human brain, the neurons move electrochemically and, consequently, are not linear. Catpac can use 4 types of transfer function forms. The form used in the results shown below is sigmoid. A sigmoid function is an S transfer form mathematically (Catpac Manual, Version 2.0, p. 23, 1998; Han et al, 1995). The sigmoid S curve is preferable in the Galileo transfer here, since conceptual space is not flat, but rather curved.

Catpac also has a Clamping function. The clamping function is to allow a neuron, once found to remain on for finding additional connected neurons. The Clamping operation is a yes or no choice. Once on, Woelfel writes clamping is like putting a reminder note in front of you to pay attention to words as they appear on the note (Catpac Manual, Version 2.0, p. 22-23, 1998).

The Threshold function in Catpac is a "transfer function" (Catpac Manual, p. 24, 1998). The Threshold value is best set to 0 for the first pass through the text data. The 0 allows a neuron to remain active to increase the chances of finding connected neurons. The Threshold is associated with the Catpac Learning Function to strengthen the connections found among neurons. The learning rate is set at a default of .01. Moving the value higher makes Catpac learn more rapidly.

Descriptive Statistics

The total number or N of the key informants was 66. There were 51 females and 14 males. One participant identified as non-Binary. The years of experience among the interviewees was 11.22, with a standard deviation of 7.27. The standard deviation represents the average number of years among participants. The mean age of the

interviewees was 45.20, with a standard deviation of 11.96. Participants reported delivery methods for the trainings available under Title IX at their respective institutions. There were 59 hybrid options (a combination of in person and online), 4 online only offerings and 3 in-person delivery methods. There is no Galileo geographic requirement in gathering text data from respondents. However, the researchers wished to be able to recruit participants by indicating their responses would be part of a nationwide research project. The number of unique states was 24 in this dataset.

Word Count and Dendrograms

The total word count for the "raw corpus data" for all 5 question responses (Woelfel, 2022, page 364) was 15,159. The total number of unique words was 247. Question 1 had 50; Question 2 had 47; Question 3 had 50; Question 4 had 50, as did Question 5. The unique words number default for the first pass at the text data is 50. That is the number for the 5 questions reported here. For more refined analysis, the top 15 to 30 would be the optimum to work with (Note: the neurons which fire together, wire together). The more refined analysis will come once the N reaches 100. Later Catpac scanning of the interview texts will use the lesser number of unique words to clarify the space. In Galileo analysis stabilization of most conceptual neighborhood space begins to occur at approximately 50 respondents. The split-half procedure shown below (Question #2) seeks to determine for the two halves, a similarity of neuron patterns. However, the absence of stabilization in the text corpus at 50 respondents does not necessarily mean there are no patterns resulting. The absence of stabilization could mean there are not yet enough respondents for stabilization to appear. In fact, the researchers continue to collect more interviews, in part, for this reason. Moreover, the mental maps of individual Title IX coordinators could be incompletely formed in such a complex and changing policy and procedures driven conceptual neighborhood. Under such circumstances, stabilization of neurons/concepts becomes more difficult to achieve.

Dendrograms show the proximity of similar objects. The Galileo dendrograms depict patterns using the special character of a "pyramid" or "hat." The concepts formed by the dendrogram in its entirety are the neighborhood of conceptual space formed by the responses from the Title IX coordinators. The heights of the pyramid symbols indicate the clustering of the concept from within and across all question responses from the interviewees. The tallest of these pyramid patterns would represent the clustering of Title IX concepts formed from the key informants' interview responses; thus, showing the neurons wiring together. The split half results from Question 2 indicate the conceptual space markers have not yet become stable. The result can nevertheless, be described and explained. Figure 1 is the "top" of the split-half analysis of Question 2. Figure 2 is the "bottom" half of Question 2. The 66 respondents allowed for two groups of 33 interviews. As both figures show there are shared concepts in both halves. For example, both have Title and IX. They have different dendrogram positions and dendrogram "heights." Further, both dendrograms contain words which are important to the Title IX conceptual space. Words such as think, life, and Title IX are wiring together in both halves of Question 2. Terms of this kind, connote information about what Title IX work requires among the key informants. The top and bottom halves of Question #2 contain the same 15 terms. These terms are shown below in Exhibit 1.

Exhibit 1

Shared terms in top and bottom of question #2

Need(s)	Know
Student(s)	Training
People	Consent
Talk	Important
Sexual	Process
Campus	Faculty
Work	Right
Time	
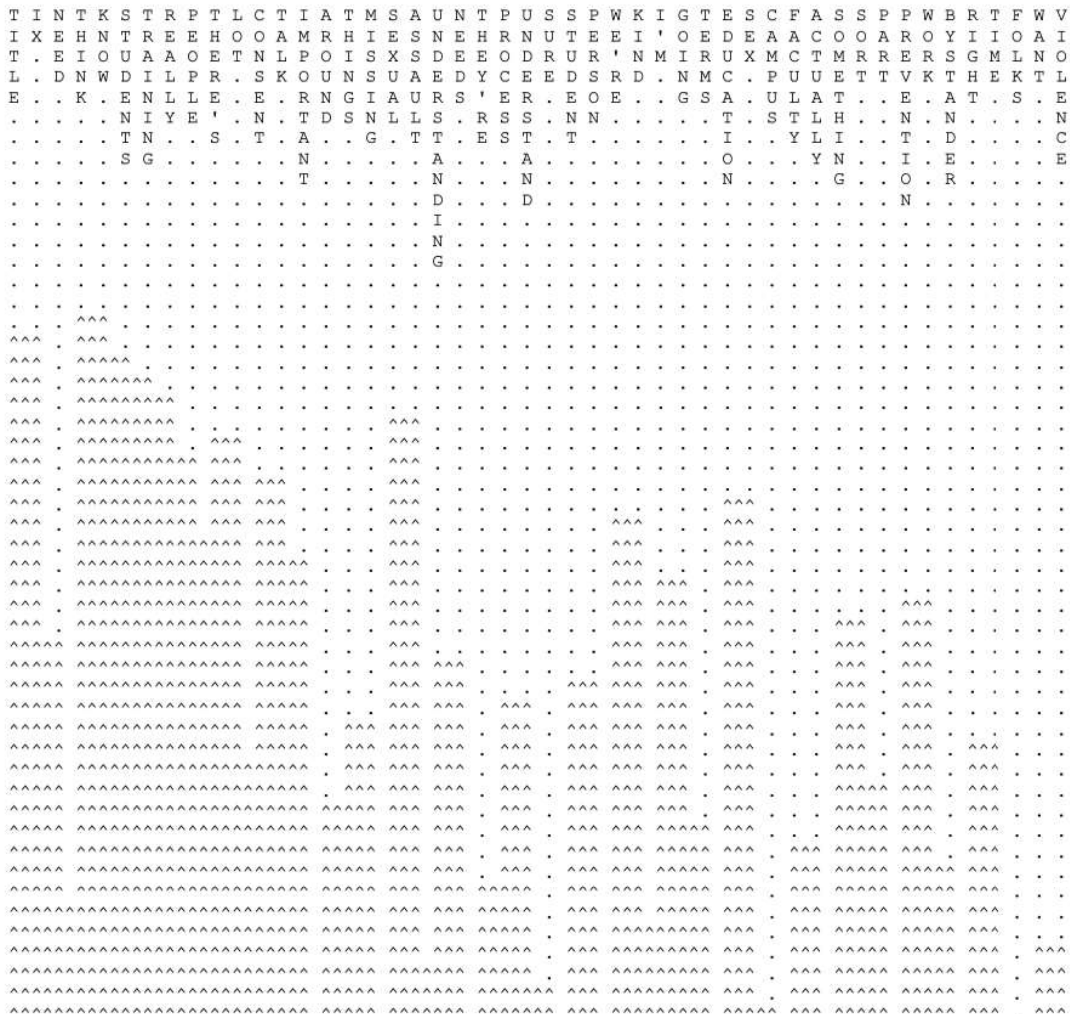
Figure 1: top half of question 2 split -first 33 respondents

The presence of these shared terms indicates a movement toward stability in the conceptual space. The presence

of these words also points to the need to refine the analysis using 15 to 20 unique words, enabling Galileo Catpac to create more coherent wiring among neurons for dendrogram representation.

Figure 2: bottom half of question 2 split - second 33 respondents

Question 1: When you first became involved in Title IX work, what were the results you were expecting to see? Prompt Question: What brought you to the work?

The word count for Question #1 was 2,685. Title was the most frequently occurring word. The second most frequently occurring word was IX. The view of the dendrogram would be best understood as looking out a window onto a "city scape" with buildings in the neighborhood. The taller buildings while distinguishable from the shorter buildings simply shows the contours of the neighborhood.

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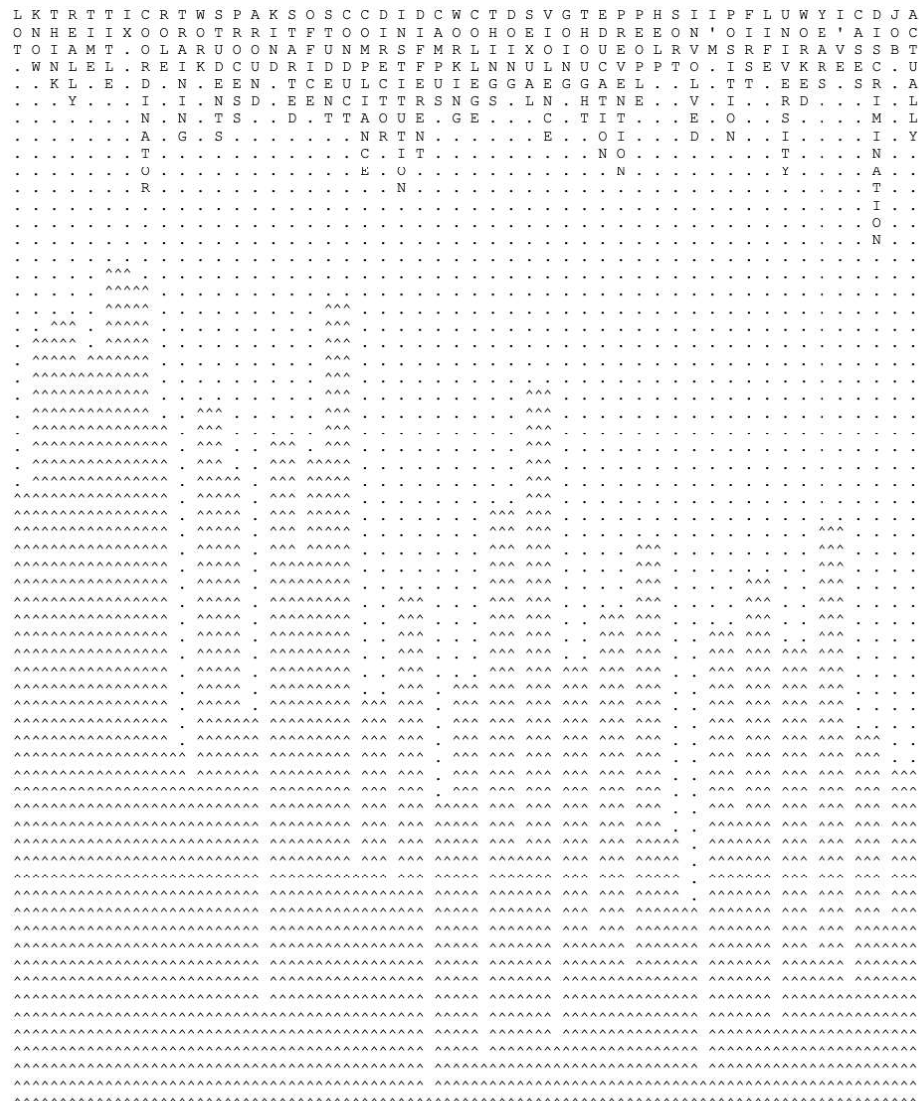
Figure 3: bottom half of question 2 split - second 33 respondents

The absence of syntax in the dendrogram does not mean the word or words are not meaningful on their own. When neurons assigned to the words are active, the connective capacity increases. As neurons move, they in turn trigger other neurons which may not appear in the Catpac dendrogram "window" (Catpac Manual, Version 2.0, p.22, 1998).

The tallest pyramid patterns show that Title and IX are together as indicators of the conceptual space. The next tallest pyramids are Student and Conduct. Thus, these terms are the most active neurons in the emerging conceptual space formed by Question #1. The question also asked coordinators how they came to Title IX work, along with a prompt about their respective expectations for their efforts. Another pattern pair is student and conduct. The elements here would point to the importance of what happens in Title IX situations as being

associated with the students and their behavior as a key element in the conceptual space.
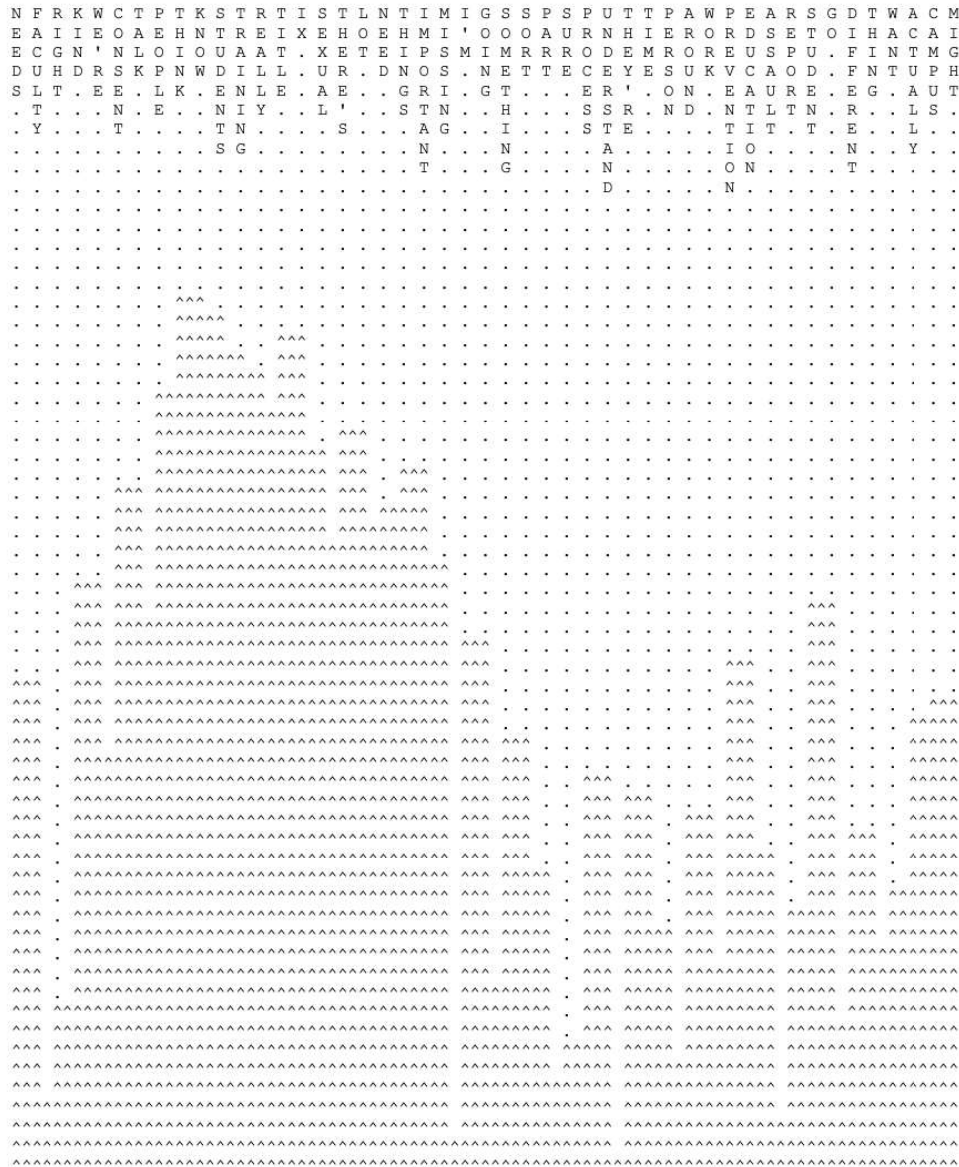

Figure 4: full dendrogram for question #2

In the dendrogram for Question #2, asked about the most important topics and what areas of prevention might be missing in the Title IX training at their respective institutions. Title and IX are once again prominent, but importantly the space is being expanded to add Think and Training. A similar "height" pattern is found between the concepts sexual and assault. Here again the conceptual space is being outlined by the elements most often repeated in the interviewee responses. The dendrogram for Question #3 adds to the thinking space with the appearance of the terms People, Think, and Prevention. All these elements are part of the shared conceptual space and thus are firing together as neurons.
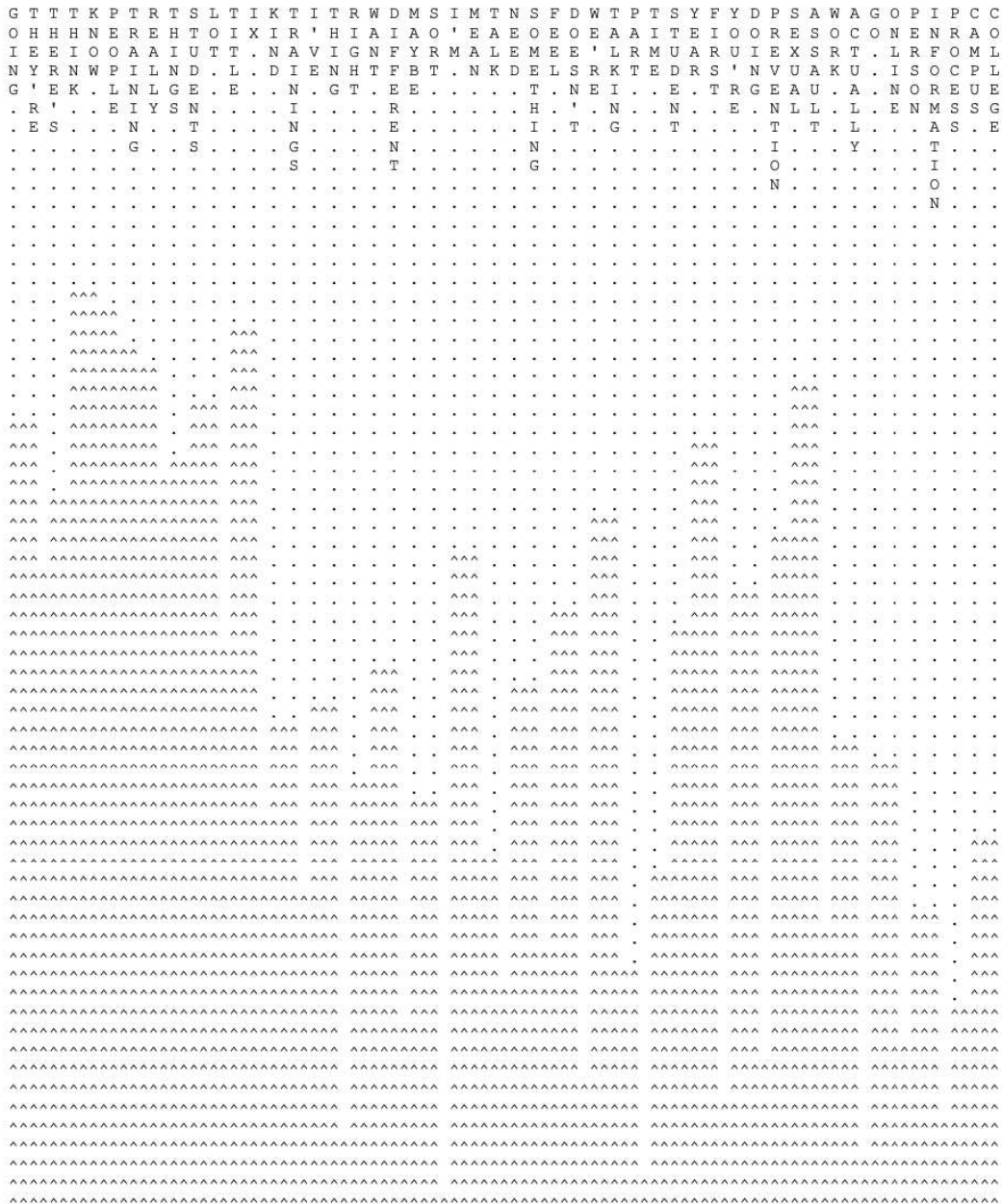
Figure 5: Full Dendrogram for Question #3

The pyramid of concepts for Question 2 brings together the ideas of People, Think, and Know; Training and Title IX being nearby. This clustering forms a neural pattern revolving around the Title IX neuron. Resultantly, the neurons form a firing pattern of shared higher frequency of occurrence. Figure 5 shows the dendrogram for Question #3.

Question #3 generated a clustering of Thinking, Knowing, and People. Title and IX are also part of the

clustering as is sexual and assault. Notably, Prevention appears in this dendrogram. The question posed concerned the respondents' answers as to why there are such limited results found in the literature of Title IX Sexual Assault Prevention training.

Question #4 inquired as to what skills and expertise should be used to develop and deliver effective Title IX training. The dendrogram results point to the terms Need, Think, Know, and Training. Know and Training are "clustering" together in this instance. The term Student also appears as a concept. Figure 6 shows the full dendrogram for Question #4.
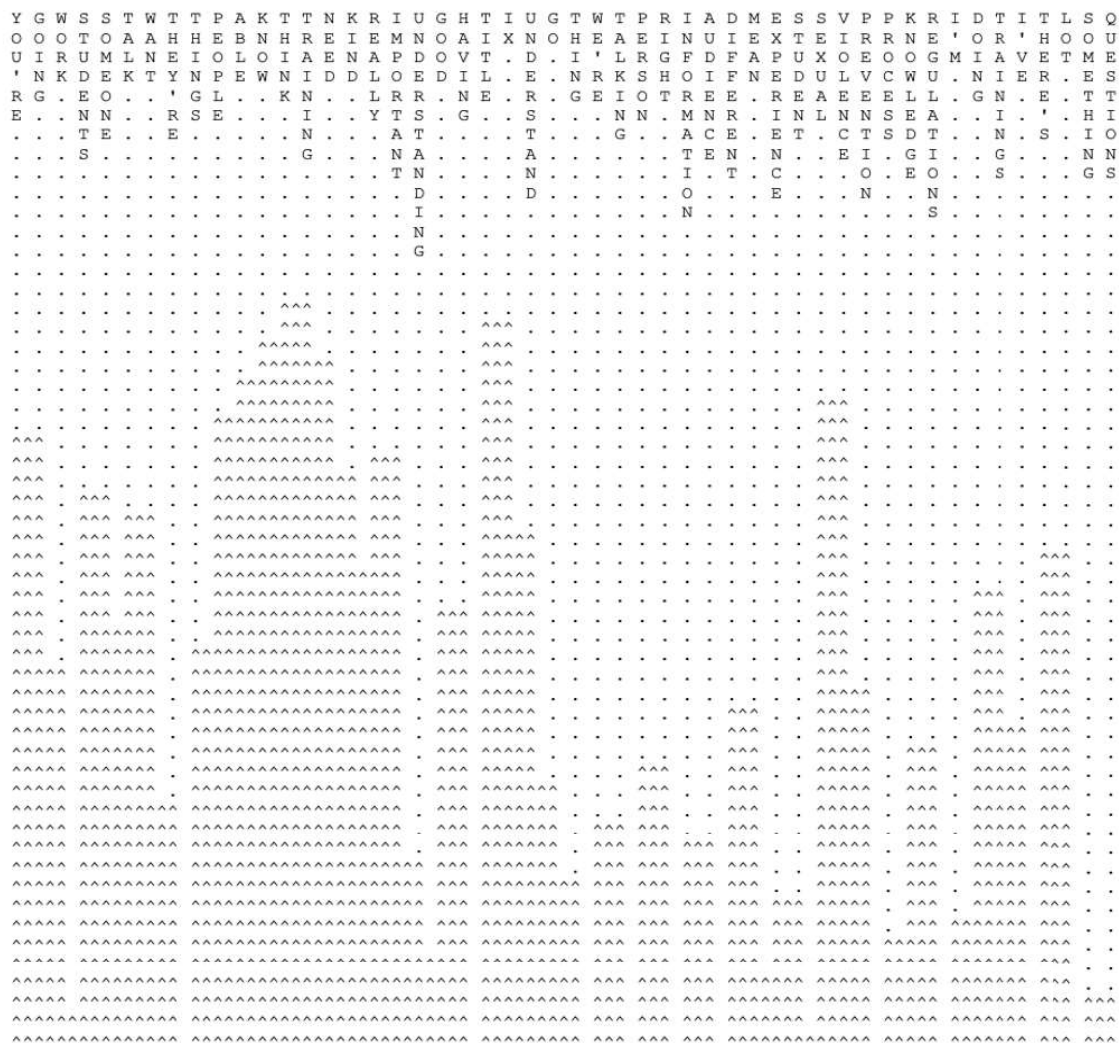
Figure 6: Full Dendrogram for Question #4

Finally, Question #5 represents the respondent's sense of the future concerning Title IX. The dendrogram shows that the concepts of Think and Know are present. Additionally, Changes, Sexual, and Prevention appear as a smaller cluster.
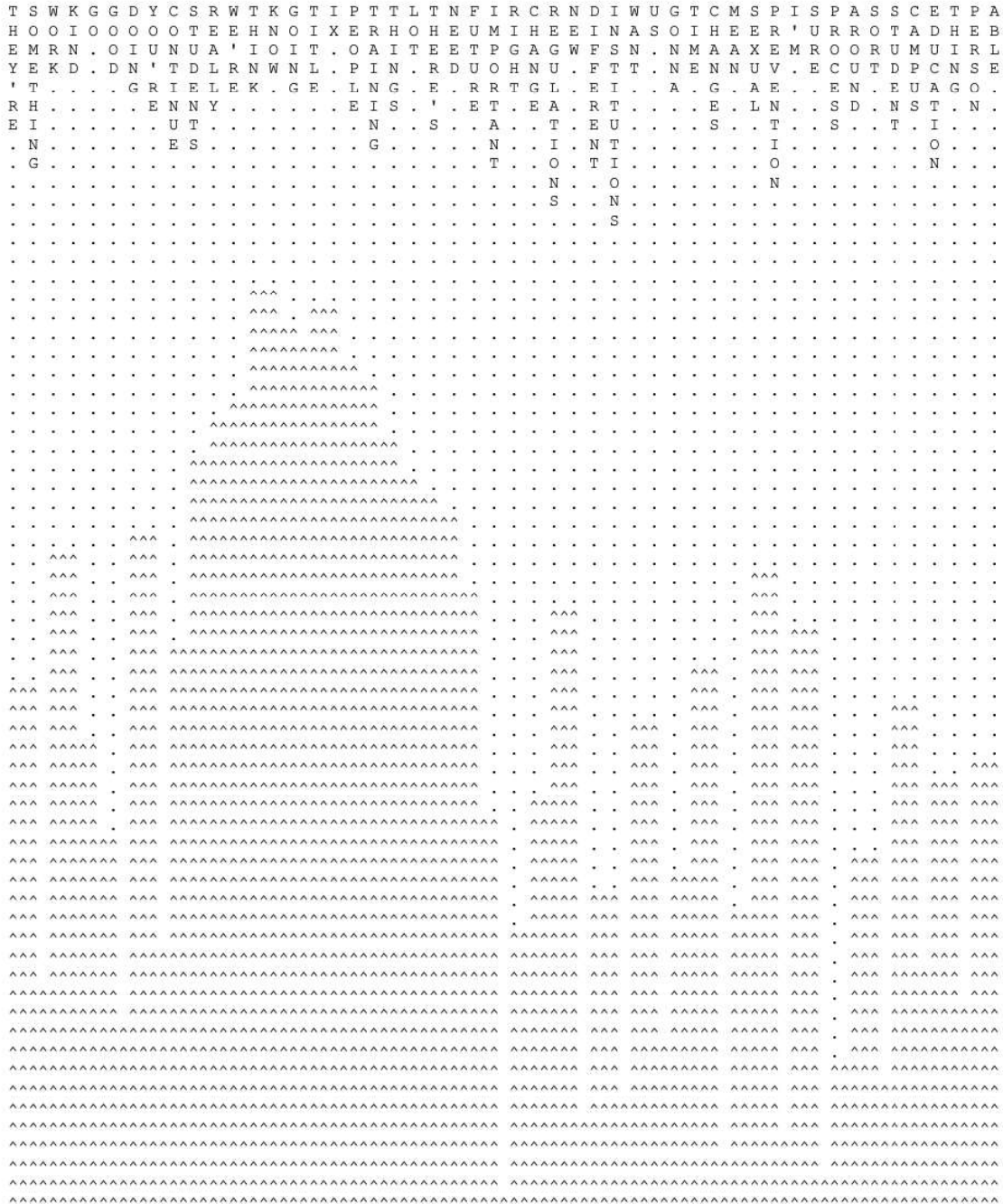
Figure 7: Full Dendrogram for Question #5

Discussion

It is vital in examining the dendrogram results that the words are not being interpreted as having meaning imposed on them by the viewer. Second, the patterns uncovered are not conversational in nature but rather they are formative of a thinking space about the important elements needed to make the community of shared

concepts. In other words, the concepts shown across the dendrogram do not, nor can they be made into sentences. Consequently, none of the results are informative of meaning in the conceptual space. Rather, they illustrate the thinking concepts forming the conceptual community.

The results presented here are not considered final. First, the number of interviews will increase to at least 100, in order to continue to stabilize the dendrogram patterns. Second, the current results are the raw corpus of the data. Woelfel uses this terminology in his Galileo research because the phrase reinforces the individual nature of the data and that the concepts arising are within the respondent's mind. The concepts do not lie beyond the individual. The individual does not somehow "pick them up" or collect them as if he/she/they were simply gathering ideas without a purpose. Carcamo-Ulloa, et al (2022, p. 3), also apply the corpus term to work they have done with textual file analysis.

Thirdly, the concepts here are surrounded by deictic terms. Those terms include pronouns, prepositions, contractions, adverbial terms, and spatial or locational terms like "here" and "there." The Galileo Catpac software has the capability to filter these terms from the raw data. That step will be taken once the number of interviews reaches 100.

Fourth, once the 100 interviews have been transcribed, the Galileo analysis will move to using the filtered and more clearly specified set of shared conceptual definitional spaces. This step is taken to generate a set of paired concepts mined from the 5 question responses. Those pairs will be used to create a distance magnitude estimation survey. The paired comparison survey for distance is illustrated below:

If chair and farm are 100 units apart how close or distant are the following:

Chair	Farm
0	100
Title IX	Sexual assault prevention
0	100

The Distance Magnitude Estimation process begins by displaying for the respondent a base pair to use as a conceptual measuring device for judging distances or differences between the paired comparisons emerging from the refined definitional space. The base pair is not to be polar opposites. Instead, the base pair will represent a difference which can be used across one hundred units or more. This configuration of the base pair allows the respondent to judge how far apart or, different, the two items of the pair are from one another.

It is the Distance Magnitude Estimation (DME) step following the CATpac analysis which becomes the mechanism to determine where the final concepts exist in the thinking space called Title IX Coordinators. The result from that measurement step will be a three-dimensional map (as shown above) which will show the elements of the conceptual space based on the coordinates in the space. The map will show distances among and between the concepts. The concept of "yourself" resulting from those coordinates will also be present. Yourself

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is the concept representing the individual which exists in all conceptual communities. Once in place in this way, the data reaches the stage of becoming a mental model of a system of information according to Woelfel (Woelfel, p. 276). Mental Models of this kind change as the information in the surrounding environment appears and results in an alteration of the mental map. Such is the conceptual neighborhood of Title IX. Since the researchers reporting here have not yet reached the DME point, an illustration from another study (Figure 8) will demonstrate the point.
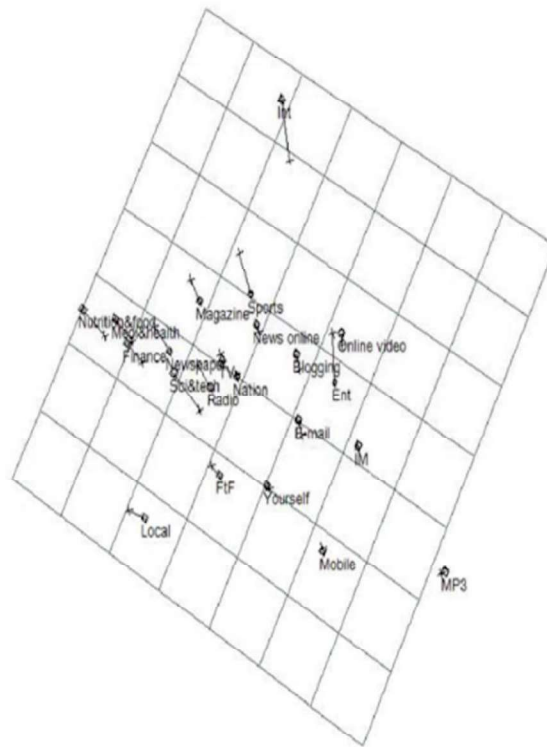
Figure 8: Distance Magnitude Three-Dimensional Map Example

Conclusion

While the Galileo Theory and Method are on display here, what is presented above would be incomplete without addressing the full scope of the research to be completed and only just begun. Galileo Theory and Method were intended to be applied to practical uses in communication and marketing; equally the case here. The first order dendrogram results exhibited above are only the beginning of a multistage process. The final stage of the multistage process shown in beginning form, is intended to culminate by improving practice. With the map results, such as that illustrated above, the Galileo Method turns to moving the conceptual objects in the space where they exist to make the concepts more useful to Title IX coordinators. The movement in space of this kind is a message vector or, more likely, a number of message vectors. Those messages hinge on the

measurement stage to come and on to the map resulting.

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References

Azimi, Andia M.; Fleming, Jessica C.; Hayes, Brittany E.;(2021); Victimization Prevention and Awareness on College Campuses: Interconnection Between Title IX and #Me Too"; *American Journal of Criminal Justice.* 2021, Vol. 46 Issue 1, p33-50. 18p. 2 Charts. DOI: 10.1007/s12103-020-09586-6.

Baldwin-White, Adrienne; Moses, Karen; (2021); "A Multisession Evaluation of Sexual Assault Prevention: The Unique Effects of Participation"; Journal of Interpersonal Violence, Vol. 36, Issues 13-14; NP7692–NP7716.

Basile, K.C., DeGue, S., Jones, K., Freire, K., Dills, J., Smith, S.G., Raiford, J.L. (2016). STOP SV: A Technical Package to Prevent Sexual Violence. Atlanta, GA: National Center for Injury Prevention and Control, Centers for Disease Control and Prevention.

Budd, Kristen M.; Frye, Shelby; (2023); Public Perceptions of Campus Sexual Assault Mandatory Reporting Policy Approaches: Considering the Consequences on Victim-Survivors"; *Journal of School Violence.* Jan-Mar2023, Vol. 22 Issue 1, p122-137. 16p. 3 Charts. DOI: 10.1080/15388220.2022.2155830.

Burgess, G. H. (2007). Assessment of rape-supportive attitudes and beliefs in college men: Development, reliability, and validity of the Rape Attitudes and Beliefs Scale. *Journal of Interpersonal Violence, 22*(8), 973–993. https://doi.org/10.1177/0886260507302993

Cárcamo-Ulloa, Luis; Mellado, Claudia; Blaña-Romero, Carlos; Sáez-Trumper, Diego; (2022); **Galileo**, a data platform for viewing news on **social** networks. *El Profesional de la Información. sep/oct2022, Vol. 31 Issue 5, p1-13. 13p. DOI: 10.3145/epi.2022.sep.12*

Davis, E. (2020). Clery Act wastes college and university resources. Retrieved August 25, 2020, from Campus Safety Magazine; www.campussafetymagazine.com; March, 6, 2023; Copyright 2023 Emerald X LLC All Rights Reserved.

DeGue, Sarah; Valle, Linda Anne; Holt, Melissa K.; Massetti, Greta M.; Matjasko, Jennifer L.; Teten Tharp, Andra; (2014); A systematic review of primary prevention strategies for sexual violence perpetration, Aggression and Violent Behavior, Volume 19, Issue 4, Pages 346-362, ISSN 1359-1789, https://doi.org/10.1016/j.avb.2014.05.004.

Edwards, Katie, M.; Banyard, Victoria, L.; and Sessarego; (2018); "Measurement Tools to Assess Relationship Abuse and Sexual Assault Prevention Effectiveness Among Youth"; Psychology of Violence; Vol. 8,

Issue 5, pp. 537-545.

Feldwisch, Rachel P.; Whiston, Susan C.; Arackal, Isabella J. Safe Sisters: A Sorority-Based Bystander Intervention Program to Prevent Sexual Assault. Journal of College Counseling. Oct2020, Vol.23 Issue 3, p262-275. DOI:10.1002/jocc.12170.

Florea, Silvia; Woelfel, Joseph; (2022); Proximal Versus Distant Suffering in TV News Discourses on COVID-19 Pandemic"; Text & Talk: An Interdisciplinary Journal of Language, Discourse & Communication Studies ; 2022; 42(3) 327-345.

Gómez, Jennifer M.; Gender, (2022); "Campus Sexual Violence, Cultural Betrayal, Institutional Betrayal, and Institutional Support in U.S. Minority College Students: A Descriptive Study"; Violence Against Women. Vol. 28 Issue 1, p93-106.

Han, Jun; Morag, Claudio (1995). "The influence of the sigmoid function parameters on the speed of backpropagation learning". In Mira, José; Sandoval, Francisco (eds.). From Natural to Artificial Neural Computation. Lecture Notes in Computer Science. Vol. 930. pp. 195–201. doi:10.1007/3-540-59497-3_175. ISBN 978-3-540-59497-0.

Hebb D. (1949). *The Organisation of Behaviour*. New York, NY: John Wiley and Sons.

Katz, J., & Moore, J. (2013). Bystander education training for campus sexual assault prevention: an initial meta-analysis. *Violence and victims*, *28*(6), 1054–1067. https://doi.org/10.1891/0886-6708.vv-d-12-00113

Kettrey HH; Marx RA, The Effects of Bystander Programs on the Prevention of Sexual Assault across the College Years: A Systematic Review and Meta-analysis. Journal of youth and adolescence ISSN: 1573-6601, 2019 Feb; Vol. 48 (2), pp. 212-227;

Lagani, Gabriele; Falchi, Fabrizio; Gennaro, Claudio; Amato, Giuseppe;(2022); "Comparing the Performance of Hebbian Backpropagation Learning Using Convolutional Neural Networks" Neural Computing & Applications, Vol. 34 Issue 8, p6503-6519. 17p. DOI: 10.1007/s00521-021-06701-4

Morrison, Shannon; Hardison, Jennifer; Mathew, Anita; O'Neil, Joyce; (2004); An Evidence-Based Review of Sexual Assault Preventive Intervention Programs; National Institute of Justice OCR: Office of Civil Rights. (2021, January 5). *Know your rights: Title IX prohibits sexual harassment and sexual violence where you go to school*. Home. https://www2.ed.gov/about/offices/list/ocr/docs/title-ix-rights-201104.html

Semetsky, Inna; (2005). "Pierce's Semiotics, Subdoxastic Aboutness, and the Paradox of Inquiry"; *Educational Philosophy & Theory*. Apr2005, Vol. 37 Issue 2, p227-238. 12p. DOI: 10.1111/j.1469-5812.2005.00111

Torgerson, W.; (1958) Theory and Method of Scaling. Wiley, New York.

Lin; Liu, Meina; Fink, Edward L.; (2016); "The Role of Person-Culture Fit in Chinese Students' Cultural Adjustment in the United States"; *Human Communication Research;* Vol. 42 Issue 3, p485-505. 21p. DOI: 10.1111/hcre.12084

Terman, Jessica*; (2022) Examining and Evaluating University Clery Act Programs: Sexual Assault on University Campuses"; Journal of Public Affairs Education*, Vol. 28 Issue 1, p56-79, 24p; DOI: 10.1080/15236803.2021.

Vink, Josin; Edvardsson, Bo; Wetter-Edman, Katrina; Tronvoll, Bard; (2019); Journal of Service Management,

in Bingley, Vol. 30, Issue 1; pp. 75-104. DOI:10.1108/JOSM-08-2017-0186

Woelfel, J., Stoyanof, NJ., The Galileo System: A rational alternative to the dominant paradigm for social science research. In: Hinner M (Ed.), Freiberger beiträge zur interkulturellen und wirtschaftskommunikation: A forum for general and Intercultural business communication, Vol. 3: The role of communication in business transactions and relationships (pp. 433–462).

Woelfel, Joseph; (1998); CATpac User's Manuel, Rah Press.

Woelfel, Joseph; (2020); Convergences in cognitive science, social network analysis, pattern recognition and machine intelligence as dynamic processes in non-Euclidean space; Quality and Quantity, Vol. 54, pp. 263-278.

Young, G., Householder; (1938); A Discussion of a set of points in terms of their mutual distances. Psychometrika, Vol. 3, Issue 4.